ISIS: A Computer-Aided Education Program For Hypertensive Patients

CONSOLI Silla, MD
Unité Médico-Psychologique ◊ Centre de Prevention Cardio-Vasculaire
Hopital Broussais ◊ Paris - France

BEN SAID Mohamed, MD,
Service d'Informatique Médicale ◊ Hopital La Pitié-Salpétrière ◊ Paris - France

JEAN Jocelyne, RN
Service d'Hypertension ◊ Hopital Broussais ◊ Paris - France

Hypertension represents a major risk factor and plays a major role in the aggravation of the overall risk of premature cardio-vascular diseases [1, 2]. Unfortunately, statistical findings, reveal a failure among patients, to comply with the therapy [3] and make the health education of hypertensive patients even more necessary. A patient education computer program called ISIS[1] [2] aimed to be a complementary method to the habitual educational techniques by bringing into patient education the pleasantness of the multimedia. It was developped on a color MacIntosh, using MacPaint, PixelPaint, MacroMind Director and MacRecorder. It runs on MacIntosh II and higher and requires 8 megabytes of RAM, a coprocessor and a color monitor of 13". It takes a 32 megabytes of disk space and is organized into 30 MacroMind Director files or movies. Macros use a high level language (Lingo) to control the navigation between files as well as the patient performance. The movies are made of sequential animations of "theatre stages" or computer screens. Up to 20 objects or "cast-members" fill the "stage" at one time. A spreadsheet facilitates the visualization of the "casts-members" arrangement into columns and provides additional channels to control the transition aspect and speed, the sound and the macros. Building simple animations is "trivial".

The clinical information is primarily represented with icons, developed using the guideline design in [4] [5]. ISIS alternates relaxing interludes with educational messages. The patient may navigate through the educational part by selecting one of the six modules: arterial pressure physiology, epidemiology, heart physiology, athersoclerosis, risk factors, drug therapy. The patient may also take the time and navigate through an imaginary trip in the ancient egyptian world. A randomized evaluation study showed the substantial benefit of using ISIS in patient education, particularly among patients whose initial health knowledge was low and the patients whose hypertension was known for more than 6 months. ISIS is actually used by hospitalized hypertensive patients and nurse students.

References

[1] Eugene Braunwald. *Heart Disease - a Textbook of Cardiovascular Medicine*. W.B. Saunders Company, Hartcourt Brace Jovanovich, Inc. the Curtis Center Independence Square West, Philadelphia, PA 19106, 1992.

[2] G. Plouin, F.P.and Chatelier, J.Y. Pagny, and T. Lang. Hypertension arterielle (epidemiologie, hemodynamique et physiopathologie, strategie de l'exploration et de la prise en charge. *Encycl. Med. Chir. (Paris, France), Coeur-Vaisseaux, 11302 A19, 9-1986, 12 P.*, pages 1–12, 1986.

[3] S.M. Consoli and M.E. Safar. Predictive value of the patient's psychological profile and type of patient-practitioner relationship in compliance with antihypertensive treatment. *Arch Mal Coeur*, 81 (Suppl HTA):145–150, 1988.

[4] A. Marcus. Graphic design for electronic documents and user interfaces. *ACM Press Eds*, pages 60–63, 1992.

[5] 0. Yukio. Pictogram design. *Kashiwashobo Eds*, pages 90–92, 1987.

---

[1] ISIS: Initiation Sanitaire Informatisée et Scénarisée
[2] ISIS is also a personage from the ancient Egypt